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Urban Tourist Complexes as Multi-Product Companies: Market Segmentation and Product Differentiation in Amsterdam

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Abstract

The tourism sector is evolving into an advanced industrial sector. Modern tourism presupposes an attractive portfolio of tourist services for a varied set of visitors. Meanwhile, tourism destinations have turned into multifaceted tourist complexes comprising a broad package of amenities that satisfy the needs of a heterogeneous group of clients. Such tourist complexes may be regarded as export-oriented multi-product companies, characterized by spatial and functional market segmentation and by monopolistic competition reflected in product differentiation. This paper argues that tourism becomes a diversified globally-oriented export industry which has to serve a multiplicity of clients.

The previous observations prompt intriguing questions on the heterogeneity, motivations, satisfaction and loyalty of tourists. The present work aims to offer a causal path model that depicts the multidimensional attraction force of a particular international tourism centre, viz. Amsterdam, from the perspective of a varied supply of tourism services. After presenting the design of a conceptual model, the empirical implications of offering a multi-product package to a heterogeneous group of visitors are modelled using a structural equations model (SEM). The various findings are interpreted, while policy implications are also outlined.

Keywords: tourist complex; heterogeneity; motivation; satisfaction; loyatly, structural equations model

1. Tourism: A Complex Phenomenon

The tourism industry has, over the last few decades, become a rapidly growing global sector, with a wide array of economic, social, cultural, urban and environmental effects. Many countries – for instance, Switzerland, Austria, France, Greece, Turkey, Malta, Spain, and Costa Rica – derive their welfare mainly from tourism resources, such as the beauty of nature, the cultural heritage, the presence of an attractive climate, or the social atmosphere in a tourism destination. With the increasing world-wide importance of tourism, a new trend in tourism behaviour can also be observed: namely, a movement away from uniform mass tourism towards individualized or customized forms of tourism. This development prompts a new challenge to tourism destinations: Can they offer a broad package of tourism facilities so as to meet the particular demands of specific groups of tourists? A wide spectrum of tourism services is able to attract a diversified group of potential clients and makes a tourism region less vulnerable to the various shifts emerging on the demand side or to the seasonality of tourism.

Modern tourism has to be seen as a complex set of an interlinked chain of activities, including travel, accommodation, catering, entertainment, shopping and flanking services. Tourism has over the years become a complicated logistic operation, with many actors involved on both the demand and the supply side. Providing a balanced portfolio of services that correspond to the client's wishes is nowadays a great challenge, especially in an age of digital tourism services (e-services).

It is also increasingly recognized that a tourism destination is not a set of distinct natural, cultural, artistic or environmental resources, but an inclusive appealing product complex that is offered in a certain appropriate place; it is based on a broadly composed and integrated portfolio of services offered by a place or destination that supplies a multidimensional holiday experience, which meets the various needs of a heterogeneous group of modern tourists. A tourism destination thus produces a compound package of tourist services based on its indigenous supply (or attraction) potential. It should be added that the attractiveness of a city as an urban tourist complex depends not only on the presence of facilities of all kinds, but also on the information provided on these facilities. Thus, tourism marketing has become a critical success factor for each place of destination. And therefore, web-based information (e.g. for pre-trip information) and electronic information devices (e.g. portable GPS equipment) are also of great importance (Matias et al., 2007).

From this perspective, tourism destinations produce a large set of products and services under the same brand, and the tourist's overall experience is the result of multiple experiences related to all these products and services (Buhalis, 2000). Consequently, tourism destinations become heterogeneous multi-product, multi-client business organizations. The modern tourist

industry is indeed based on the supply of an appropriate portfolio of tourist services for a varied set of visitors. One may therefore, regard such modern tourist complexes as export-oriented multi-product companies, characterized by spatial and functional market segmentation, and by monopolistic competition, reflected in product differentiation (Matias et al., 2007).

The present paper aims to conceptualize and model the force field of modern tourism, from both the demand and supply side. It does so by providing a modelling study, based on an extensive database for the city of Amsterdam. Particular attention will be paid to the motivation, satisfaction and loyalty of tourists in visiting a tourism complex like the city of Amsterdam. The paper is organized as follows. Section 2 provides the necessary background based on a literature search for conceptualizing the structure of a tourism complex. Then, Section 3 discusses the database on the city of Amsterdam, while Section 4 presents the operational structure of the tourism complex model. Next, Section 5 presents and interprets the results. Finally, Section 6 makes some concluding remarks.

2. Motivation, Satisfaction and Loyalty in Tourism

As mentioned above, the tourism market is a varied and multi-client system. The heterogeneity of tourists is related to their characteristics; their origin, age, level of education, social conditions, cultural values, or other individual attributes, all influence the choice of tourism destinations and the expectations, perceptions and motivations of tourists. The identification of this market heterogeneity is assumed in the literature as an extremely important element to define effective marketing strategies, since it has relevant implications for the image, satisfaction and loyalty of tourists regarding a destination (Kozak & Rimmington, 2000; Castro et al., 2007). In fact, the place image created by each tourist about a destination influences his/her decision to travel, the choice of a destination, the motivations to experience particular aspects of each place, the choice of products and services to be consumed during the holiday, the satisfaction with the travel, and, consequently, the loyalty to a destination (Chen & Tsai, 2007).

There is also a general consensus in the literature about the importance of the identification of the tourists' various motivations in order to define proper marketing strategies, and about the effects of "push" and "pull" factors that affect the motivations of tourists. As proposed by Crompton (1979): "push" factors influence the decision to travel, and they are related to intangible and intrinsic personal preferences of tourists (relaxation, evasion, escape from routine, adventure, sports, etc); "pull" factors (culture, heritage, museums, climate, landscape, etc.) affect the choice of a specific destination, and they are related to the tangible attributes of each place (Dann, 1981; Kozak, 2002; Bansal & Eiselt, 2004; Yoon & Uysal, 2005).

A first important aspect to be analysed in this study is the relationship between the characteristics of tourists (reason to travel, origin, age, gender, level of income, level of education, or membership of a heritage club) and their "pull" motivations (business, shopping, nightlife, atmosphere, cultural events, museums, architecture, or landscape) to visit a tourism destination, in particular, in our case, the city of Amsterdam (represented by arrow 1 in Figure 1). According to his/her characteristics and motivations, each tourist will experience and enjoy a particular set of products and services while visiting a tourism destination, from the wide range of possibilities being offered, achieving different levels of satisfaction with each one. As these decisions are individual and related to personal perceptions (including satisfaction with previous experiences), the identification of these particular levels of satisfaction related to the different aspects of the local tourism supply become extremely important for the management of each tourism destination. It allows us to understand which aspects of the destination should be addressed to which specific group of tourists (Chi & Qu, 2008; Lee, 2009).

Clearly, a second aspect to be analysed in this work is the relationship between the motivations expressed by the tourists visiting a tourism destination and the levels of satisfaction they obtained with the different aspects of the city (represented by arrow 2 in Figure 1).

Furthermore, assuming that the loyalty to a tourism destination is related to the satisfaction obtained on previous visit(s), as is commonly assumed in the literature, it is important to understand how the satisfaction with each aspect of the tourism supply influences the loyalty to the destination. As the overall satisfaction of a tourist results from the satisfaction obtained from each of their experiences with different services and elements of the tourism supply, all these elements contribute to the loyalty of tourists regarding a destination (Castro et al., 2007; Lee, 2009). It is commonly assumed that loyalty is an important aspect of destination marketing: it is less costly to attract a satisfied visitor than a new one; the tourists are better informed in the repeat visits (implying that they can reach higher levels of satisfaction); and they promote the destination at no cost in a very effective way (word of mouth among their circuit of friends). In fact, repeat visitors can contribute to the achievement of higher revenues and profits for the tourism companies. This loyalty can be evaluated by taking into consideration the intention of the tourists to return and / or to recommend the visit to their families and friends (Opperman, 2000; Yoon & Uysal, 2005; Chen & Tsai, 2007). Accordingly, the third aspect to be analysed is the relationship between the satisfaction obtained with the different aspects of the city and the loyalty to Amsterdam as a tourism destination (represented by arrow 3 in Figure 1).

The analysis developed in the present study starts from the segmentation of the tourism market, considering the different characteristics of tourists in order to identify their motivations, the

relationship of these motivations to the level of satisfaction obtained with each aspect of the tourism supply, and the implications of the satisfaction for the loyalty to the destination. Finally, the direct relationship between the characteristics of the tourists (segmentation) and the loyalty will be analysed (represented by arrow 4 in Figure 1). The architecture of the conceptual model with the relationships to be analysed in our study is shown in Figure 1.

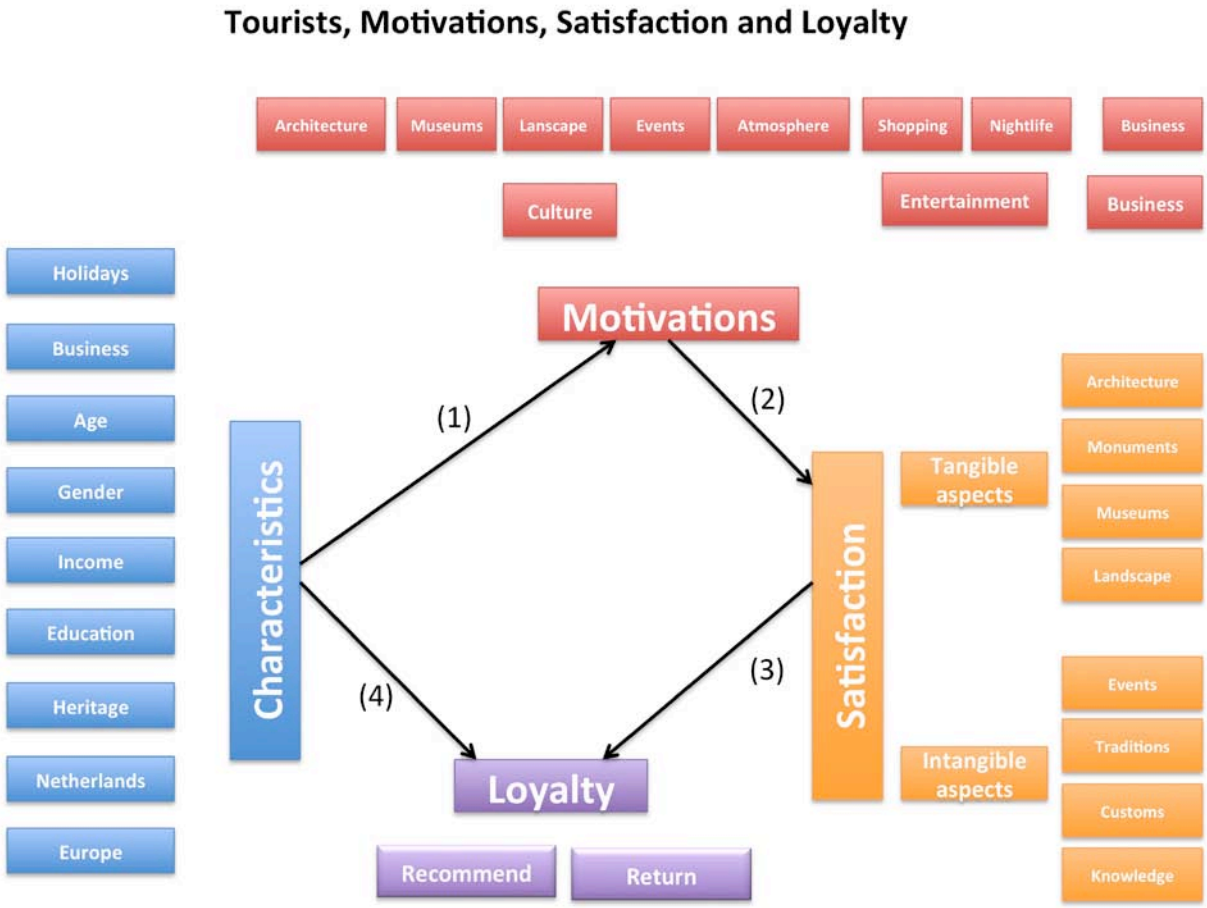


Figure 1: Conceptual Model of a Tourism Complex

This analysis will be developed using a Structural Equation Model. Some examples of the utilization of Structural Equation Models in the last years are proposed by Chen & Chen (2010), Chen & Tsai (2008), Lee et al. (2007) Lee & Hsu (2011) Yoon & Uysal (2005), all of them analysing the relationship between motivations and loyalty. Castro et al. (2007), Chen & Tsai (2007), Chi & Qu (2008) or Lee (2009) include the concept of "image" of a destination to analyse the loyalty of tourists. Dyer et al. (2007) model the resident perceptions related to tourism development and Abrate et al. (2011) use Structural Equation Model to analyse the relations between characteristics of places and hotels, reputation, quality and prices.

3. Database

The conversion of the conceptual model in Figure 1 into an operation measurement model calls for an extensive database. The data used for the empirical part of this paper has mostly been collected within the Sixth Framework Programme from European Union (FP6 EU) project "Integrated e-Services for Advanced Access to Heritage in Cultural Tourist Destinations" (ISAAC), which aimed to evaluate the advantages, reasons for failure and barriers related to the introduction of integrated e-services in tourist places, with a particular view to the enhancement of advanced access to cultural heritage in cities. The data was collected by user surveys carried out in the city of Amsterdam between August and November 2007 as part of a broader multi-purpose tourist investigation. These surveys involved extensive field data collection by interview teams hired and trained by the University of Nottingham, one of the ISAAC-partners. Three different groups of people were targeted: residents, visitors (tourists), and service providers in the tourist sector. The questionnaires used both online and face-to-face interview mode (stand-alone computer versions or paper versions). In total, 31% of responses were made online, using the ISAAC website survey; 24% were done on a computer version using a lap-top; and 45% were done on paper (see also ISAAC D1.4, 2007). In our field work, we mainly focused on tourists visiting Amsterdam, where approx. 650 tourists filled out a questionnaire. From the multi-purpose survey questionnaire, we used in particular information on four parts: motives for a visit; costs and satisfaction; appreciation of cultural heritage; and personal characteristics. Table 1 provides an overview of the variables concerned. In the section on the appreciation of cultural heritage, the respondents were asked to value several cultural heritage characteristics, such as the presence of museums, architecture, and cultural festivities in Amsterdam. These valuations of cultural heritage characteristics are captured in discrete dependent variables, ranging from 'not important' to 'very important', using five distinct categories. The resulting database formed the cores of our measurement model.

The hypothesized relationships between the exogenous and endogenous variables of the model were tested with the AMOS 19 structural equation modelling (SEM) package for SPSS. In an initial phase, the data were impacted for missing values. Since a number of structural equation modelling functionalities require a complete data set, it seems advisable to either delete or impute cases which contain missing values. Of the 645 cases, a total of 122 cases contained at least one missing value, primarily on the income variable (n = 107). A missing-data pattern analysis did not reveal, however, any significant association with the scores on the related variables, which indicates that a simple deletion of cases with missing values would not result in serious estimation errors. Since data-imputation would always imply the artificial construction of variable scores, and since

the number of missing values to estimate is comparatively large, our further SEM analysis has only taken complete cases into account.

It should be added that in a second phase, the measurement level of nationality was adjusted. Since structural equation modelling assumes variables on an interval or ratio measurement level, nominal variables have to be recoded into dummy variables. Consequently, nationality was recoded as a set of dummy variables distinguishing between Dutch nationals, other European tourists, and non-European tourists. All other measurement items were measured on either the ordinal (the indicators for motivational factors, return, recommend, age, education level, and income) or the dichotomous categorical (the indicators for satisfaction, holiday, business, gender, and heritage membership) scale, and did not require further data manipulation.

4. Methodology: A Structural Equations Model (SEM)

Structural equation modelling is a statistical technique that establishes measurement models and structural models to address complicated behavioural relationships (Nusair & Hua, 2011). Although SEM is closely related to multiple regression, it may be used as a more powerful alternative to approaches such as multiple regression, path analysis, factor analysis, time series analysis, and analysis of covariance, since these procedures may be seen as special cases of SEM (Garson, 2011).

Overall, structural equation modelling has two main advantages: (1) it allows for the estimation of a series of multiple regression equations simultaneously, and (2) it has the ability to incorporate latent variables into the analysis and accounts for measurement errors in the estimation process (Hair et al., 1998). To test our hypothesized model as shown in Figure 1, Mulaik & Millsap's (2000) four-step modelling approach was used, consisting of:

1. Explanatory factor analysis to establish the number of latent variables;
2. Confirmatory factor analysis to confirm the measurement model;
3. A structural model to test the relationships between the model variables;
4. Nested models testing in order to identify the most parsimonious model.

While Steps 2 to 4 are intrinsic to structural equation modelling, the first step is performed in commonly used statistical software packages. The unidimensionality of each proposed construct, a necessity in the model building step, was assessed by Principal Component Analysis (PCA) in SPSS 17.0 (Sethi & King, 1994). Since the variables used in the analysis were on either ordinal or dichotomous levels, a polychoric and tetrachoric correlation matrix was used instead of the more commonly used Pearson's product-moment correlation (Jöreskog &Sörbom, 1996).

Next, two statistical analyses were performed: a Principal Component Analysis on the activities planned by the tourist (see Table 2 for an overview) in order to identify the underlying dimensions of the motivational factors, and PCA on the appreciation-variables, to confirm the expected two-dimensional construction of satisfaction. Both factor analyses have sufficient intra-variable correlations, without being overly strong (determinant = .187 and .054). The Kaiser-Meyer Olin statistic appeared to confirm the acceptability of the factor results (KMO = .711 and .760), while the null hypothesis that the original correlation matrix is singular could be rejected by Bartlett's test of spherity in both cases.

Explanatory factor analysis on the motivational appeared to lead to a three-factor solution, based on the eigenvalues criterion. The cumulative explained variance of these factors was 65%. Varimax rotation provided a clearer interpretation of the factors. Table 2 shows the factor loadings of the different measurement items on the respective components. The results are in line with intuitive considerations and earlier literature findings, dividing the motivational factor into a cultural motive, a business motive, and a shopping motive. The first identified factor (1), the cultural motivation, incorporates the visiting purposes of architecture, museums, urban landscape, cultural events, and the general atmosphere of the city. The second identified factor (2), shopping, is largely constructed from the items shopping and nightlife. Finally, the third identified factor (3), the business motive, is mainly concerned with one variable: visits which have business as a driving factor. As a result, three motivational factors, namely Culture Motive, Business Motive, and Shopping Motive, were incorporated in the measurement model.

The Principal Component Analysis applied to the satisfaction variables appeared to yield a two-factor solution with a cumulative explained variance of 62%. Table 3 gives an overview of the construction of the two satisfaction factors. Factor 1 combines all variables concerning the satisfaction with intangible heritage: traditions, customs, and knowledge, while the second component, Factor 2, depends mainly on satisfaction with the tangible heritage, namely, the city's architecture, monuments, museums, and urban landscape.

After conducting this exploratory factor analysis, a confirmatory factor analysis – to test the adequacy and validity of individual items and latent variables – and Structural Equation Modeling – to test the significance of the hypothesized paths between all variables – was performed in AMOS. Both Maximum Likelihood and Bayesian estimation were used. A Bayesian approach is normally advocated in case of ordinal or dichotomous measurement levels and a non-normal distribution, both observed in the data. On the other hand, it should be noted that various authors have observed only marginal differences between Maximum Likelihood and Bayesian estimation outcomes

(Byrne, 2010). Therefore, the decision was taken to run a simultaneous Maximum Likelihood estimation in order to compare the results and model fit indices.

Table 1: Characteristics of the Variables Used

NAME VARIABLE	TYPE	# GROUPS {CHOICE SET}	CONTENT
Purpose	Categorical	4 {holiday, business, visiting friends or relatives, other}	The main purpose of the visit
Activities planned	Categorical	9 {architecture, museums, cultural events, music/theatre, shopping, business, nightlife, city's atmosphere, other}	The activities planned by the tourist
Persons	Numerical		Number of persons joining the trip
Cost	Numerical		Total costs, excluding those for the trip
Return	Categorical	3 {yes, no, uncertain}	If the tourist intends to return
Recommendation	Categorical	3 {yes, no, uncertain}	If the tourist would recommend the city
Architecture	Ordinal	5 {1,…,5}	Appreciation of architecture
Monuments	Ordinal	5 {1,…,5}	Appreciation of monuments
Museums	Ordinal	5 {1,…,5}	Appreciation of museums
Urban Landscape	Ordinal	5 {1,…,5}	Appreciation of urban landscape
Cultural events	Ordinal	5 {1,…,5}	Appreciation of cultural events
Traditions	Ordinal	5 {1,…,5}	Appreciation of local traditions
Customs	Ordinal	5 {1,…,5}	Appreciation of customs
Local knowledge	Ordinal	5 {1,…,5}	Appreciation of local knowledge
Country	Categorical	3 {Home country, from Europe, from rest of the world}	Country of origin
Age	Ordinal	5 {<18, 18-34, 35-54, 55+}	The age of the tourist
Employment	Categorical	7 {Employee, Homemaker, Retired, Self-Employed, Student, Unemployed, Other}	The current job/profession of the tourist
Member of heritage organization	Categorical	2 {yes, no}	If the tourist is member of a cultural or natural heritage organization
Income	Ordinal	5 {<15000, 15-25000,25-35000,35-45000, 45-55000,>55000}	The level of income of the tourist
Education	Ordinal	5 {Pre-HS, HS, Vocational, Bachelor, Higher Degree}	The educational level of the tourist.
Sex	Categorical	2 {Male, female}	Gender

Table 2: Varimax Rotated Component Matrix of Motivation

Items	Factors		
	1	2	3
Activities planned architecture	.790	.094	.081
Activities planned museums	.660	.284	-.403
Activities planned landscape	.789	-.082	.063
Activities planned cultural events	.403	.272	.560
Activities planned shopping	-.026	.895	-.003
Activities planned business	-.030	.063	.839
Activities planned nightlife	.282	.652	.252
Activities planned atmosphere	.686	.260	.215

Table 3: Varimax Rotated Component Matrix of Satisfaction

Items	Factors	
	1	2
Appreciation of architecture	.138	.824
Appreciation of monuments	.160	.767
Appreciation of museums	.065	.727
Appreciation of urban landscape	.158	.687
Appreciation of cultural events	.455	.226
Appreciation of traditions	.891	.068
Appreciation of customs	.886	.122
Appreciation of knowledge	.850	.123

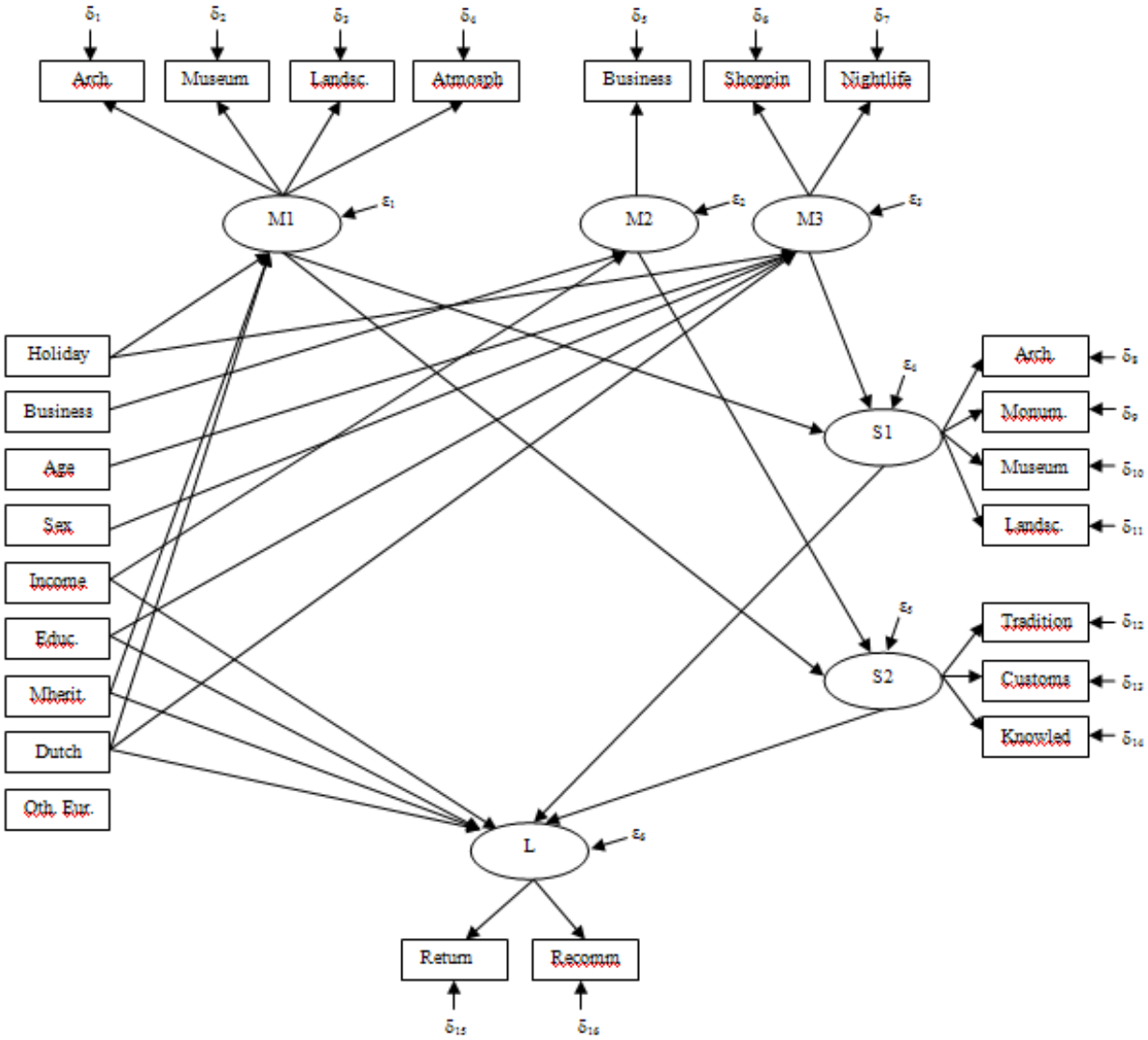
5. Results of the SEM

The measurement model of the Structural Equation Model was constructed based on the previously identified dimensions. Following Garson (2011), we assume a correlation between the different latent variables (depicted by a double-headed arrow in the tables). The Maximum Likelihood estimation showed a significant difference between the observed and implied variance-covariance matrices with a chi-square (χ^2) statistic of 664.745 (Df = 229, p-value = 0.00). However, the used statistic chi-square (χ^2) is sensitive to sample size, departures from multivariate normality, and model complexity (Schumacker & Lomax, 2004). Due to the limitations of the model, alternative indices have been proposed, such as the normal chi-square (χ^2/df), the root mean square error of approximation (RMSEA), and the Comparative Fit Index (CFI). Nonetheless, all these indices also indicated a model misspecification with χ^2/df = 2.903, RMSEA = 0.060 and CFI =

0.890 (for a discussion of thresholds, see Wheaton et al., 1977; Tabachnick & Fidell, 2007 and Steiger, 2007).

Apart from looking at the total model fit indices, the significance of the individual factor loadings should also be considered (Hooper et al., 2008). None of the measurement items had non-significant factor loadings at a 99 per cent confidence interval, while the mean values and standard errors of the items (as seen in appendix 1) show, on average sufficient scores to use in a structural equation model. Indeed, all but two standardized regression weights were above the minimal level of 0.30 (Hair et al., 1998; Merenda, 1997). Only The item indicating a shopping motivation (0.270) and the item measuring satisfaction through cultural events (0.295) were below this threshold value. The Bayesian estimation procedure shows largely comparable parameter estimates. The measurement model showed possibilities for improvement by deleting the items Activities planned shopping or Appreciation of cultural events, and by correlating measurement errors between a number of motivational and satisfaction items. As indicated by the covariance matrix, there were no values to suggest that latent variables had to be combined. The measurement model was respecified by including correlations between the error terms of: architecture as a motive and the satisfaction with architecture; the motivational item of museums and the appreciation with museums; and satisfaction with the urban landscape and its motivational counterpart. It could be presumed that the response on travel motive and satisfaction is likely to be influenced by the same underlying structures. Furthermore, both the appreciation of cultural events and the motivation for cultural events was deleted from their latent constructs, since the standardized regression weights were below or only marginally above the 0.30 level. The shopping motive was kept in the analysis for its theoretical value. The resulting measurement model still had a significant χ^2-value = 337.607 (Df = 177, p-value = 0.00) but the other model fit indices now all show an acceptable value (χ^2/df = 1.907, RMSEA = 0.042, CFI = 0.956), allowing us to continue with the structural model. This was decided because the individual measurement models of the latent factors showed sufficient internal validity, with no indication of a violation of discriminant validity between factors, as tested by Bagozzi et al. (1991).In a first structural model, relational paths were assumed between nine variables concerning the personal characteristics of tourists (a holiday purpose, a business purpose, age, gender, income, educational level, heritage membership, Dutch nationality, and other European nationality) and the three motivational factors (Culture Motive, Business Motive, and Shopping Motive). Furthermore, these personal characteristics were also assumed to directly influence loyality. The motivational factors did not have a direct path to loyalty, but were instead expected to influence the satisfaction factors (Satisfaction Tangible, and Satisfaction Intangible). Finally, these two latent satisfaction variables were directly related to loyalty. The structural equation model is represented in Figure 2.

In a first step, this complete regression model was tested on path significance. The results of the initial Maximum Likelihood estimation procedure revealed acceptable model-fit indices (χ^2/df = 2.268, RMSEA = 0.049, CFI = 0.930), even though the χ^2-value = 458.108 (Df = 202, p-value = 0.00) was significant. Of the 46 hypothesized relationships between the exogenous and endogenous variables, only 20 were found to be significant at a 95% confidence level. Comparable results were found with the use of Bayesian estimation. Both estimation methods showed potential improvement by deleting non-significant paths in a stepwise procedure. Paths were hierarchically deleted based on their significance levels, while the influence on model fit was investigated in every step in order to arrive at a satisfactory model fit.



Note: For reasons of readability, covariances are not shown in the model. Only significant paths are shown. M1 = Culture Motive, M2 = Business Motive, M3 = Shopping Motive, S1 = Satisfaction Tangible, S2 = Satisfaction Intangible, L = Loyalty, χ^2 (209) = 437.873, p = 0.000, χ^2/df (2.095), RMSEA = 0.046, CFI = 0.934.

Figure 2: Operational Structural Equation Model

In the final model, 26 paths were eventually fixed at zero, with 21 regressions found significant on an α-level of 0.05 or lower. The overall model fit statistics of Maximum Likelihood Estimation indicates that the accepted model fits the data better than the original model. While we have to acknowledge that the χ^2-value of our final model remained significant, it is a known problem that this indices are biased with small sample sizes, a large number of variables, and a non-normal data distribution (Fan et al., 2011; Kenny & McCoach, 2003; Schumacker & Lomax, 2004). Since the better performing goodness of fit indices (Root Mean Square Error of Approximation, χ^2/df, and Comparative Fit Index) indicate a reasonable to good model fit for the final model, the final parameter estimates can be considered as sufficiently stable.

Table 4 gives an overview of the unstandardized regression weight estimates with both a Maximum Likelihood method (left side of Table 4) and a Bayesian Estimation group (right side of Table 4) for the relationships between personal characteristics and travel motives. Note that since Bayesian estimates are based on a 95% confidence interval around the mean, the level of signifcance for these estimates is maximized at an α-level of 0.05.

Table 4: Unstandardized Path Estimates with Maximum Likelihood and Bayesian Estimation: Paths Between Personal Characteristics and Travel Motives

	Maximum likelihood Unstandardized estimates *(SE)*	Bayesian estimation Unstandardized estimates *(SE)*
Motive Culture		
Nature holiday	.138 *(.031)****	.135 *(.000)**
Heritage membership	.064 *(.031)**	.063 *(.001)**
Dutch nationality	-.461 *(.045)****	-.457 *(.000)**
Motive Business		
Nature business	.295 *(.033)****	.295 *(.001)**
Income	.017 *(.005)***	.017 *(.000)**
Motive Shop		
Nature holiday	.071 *(.022)***	.083 *(.000)**
Age	-.054 *(.016)****	-.066 *(.001)**
Sex	-.044 *(.017)***	-.050 *(.000)**
Educational level	-.026 *(.008)***	-.031 *(.000)**
Dutch nationality	-.097 *(.029)****	-.109 *(.001)**

Note: * p-value < .05, ** p-value <.01, *** p-value <.001

Both estimates under Maximum Likelihood and Bayesian estimation generate comparable results, with consistent unstandardized factor weights and significance. However, as indicated by other authors (e.g. Mîndrilă, 2010; Nevitt & Hancock, 2001), the standard errors of the Maximum Likelihood estimates are inflated under violations of multivariate normality and inadequate measurement level. While not an issue in our analysis, this could potentially result in the rejection of certain parameter estimates and regression paths when used without caution.

The findings from our econometric analysis are the following. A holiday purpose for travelling has a significant positive influence on both the cultural and shopping motive, while, conversely, the business purpose has a significant positive correlation with the business motive. Another factor positively influencing the business travel motivation is the income variable. Interestingly, the results indicate that tourists in higher age categories seem less motivated by shopping opportunities in Amsterdam. Both educational level and gender have a significant negative effect on shopping as a travel motive, implying that men and higher educated tourists are less likely to travel to the destination for shopping purposes as compared with women and lower-educated visitors. Furthermore, the shopping motive seems less significant for Dutch tourists than for non-Dutch visitors. Finally, heritage membership has a significant positive influence on the cultural motive and this motivation is less important for Dutch nationals as compared with other nationalities.

Table 5 consists of the regression weights between the motivational factors and the two latent variables measuring satisfaction. Two of the six possible paths were found insignificant in an earlier structural model and were given a regression weight of zero. The remaining four paths were all found significant on an $\alpha = 0.05$ level. The statistical analysis indicates the existence of a positive relationship between the cultural motive and the satisfaction with both tangible and intangible heritage in Amsterdam. Business travellers also recorded a comparatively higher satisfaction with the intangible heritage. On the other hand, the analysis indicates that a clear shopping motive significantly lowers satisfaction with the architecture, monuments, museums and the urban landscape.

Table 5: Unstandardized Path Estimates with Maximum Likelihood and Bayesian Estimation: Paths Between Travel Motives and Satisfaction

	Maximum likelihood Unstandardized estimates *(SE)*	Bayesian estimation Unstandardized estimates *(SE)*
Satisfaction tangible		
Motive culture	1.247 *(.232)****	1.131 *(.006)**
Motive shop	-3.704 *(1.049)****	-2.841 *(.029)**
Satisfaction intangible		
Motive culture	1.358 *(.187)****	1.351 *(.004)**
Motive business	.331 *(.146)**	.332 *(.002)**

Note: * p-value < .05, ** p-value <.01, *** p-value <.001

Next, from Table 6 we can deduce that both latent satisfaction variables can be significantly related to loyalty. However, while a higher satisfaction with intangible heritage leads to a higher loyalty, satisfaction with the tangible heritage on the destination has a negative impact on the

loyalty. Finally, we investigate the relationship between the personal characteristics of the tourists and their loyalty to Amsterdam. The estimation results are given in Table 7.

Only four of the estimated nine relationships were found to be significant. Age, gender, holiday purpose, business purpose, and other European nationalities were not significant in our analysis. Income, on the other hand, is significant and has a negative weight, indicating that higher income categories show less loyalty in our dataset. Other negative relationships are found between heritage membership, Dutch nationality, and loyalty, while education has a positive estimate of 0.016.

A final point of interest is the possible indirect effects between the different travel motives and loyalty. While we did not hypothesize a direct relationship between these variables, significant indirect effects can still be estimated due to the paths connecting motives, significance, and loyalty. The results of this analysis indicate a positive indirect relation between the shopping (.208) and business (.015) motive with loyalty, while cultural travel motives (-.010) have a negative indirect effect.

Table 6: Unstandardized Path Estimates with Maximum Likelihood and Bayesian Estimation: Paths between Satisfaction and Loyalty

	Maximum likelihood Unstandardized estimates *(SE)*	Bayesian estimation Unstandardized estimates *(SE)*
Loyalty		
Satisfaction tangible	-.056 *(.016)****	-.057 *(.000)**
Loyalty		
Satisfaction intangible	.044 *(.013)****	.044 *(.000)**

Note: * p-value < .05, ** p-value <.01, *** p-value <.001

Table 7: Unstandardized Path Estimates with Maximum Likelihood and Bayesian Estimation: Paths Between Personal Characteristics and Loyalty

	Maximum likelihood Unstandardized estimates *(SE)*	Bayesian estimation Unstandardized estimates *(SE)*
Loyalty		
	-.018 (.005)***	-.018 (.000)*
Income	.016 (.008)*	.016 (.000)*
Education level	-.054 (.023)*	-.054 (.000)*
Heritage membership	-.699 (.026)***	-.699 (.000)*
Dutch nationality		

Note: * p-value < .05, ** p-value <.01, *** p-value <.001

7. Conclusions and Discussion

The primary goal of this study was to assess the impact of several factors on the loyalty (measured by the possibility of a return visit or a recommendation to visit to others) to the destination of Amsterdam. The main factors analysed in our study were personal characteristics, travel motives, and satisfaction with the destination.

Ultimately, a structural equations model (SEM) identified 20 out of a hypothesized 46 paths to be statistically significant at a 0.05 probability level. Ten of the significant paths observed a relationship between the characteristics of the tourists and their motivations to visit Amsterdam. It is intuitively sensible that visitors coming to Amsterdam for business purposes are motivated more by business, while holiday purposes can be related positively to the shopping and cultural motives. Another interesting aspect of the business motive is its correlation with a comparatively higher income, making these visitors an interesting marketing group. Furthermore, travellers with a primarily business motive reported a higher satisfaction with intangible heritage, indirectly leading to a significant positive effect on the return and recommendation potential of this tourist group.

While the cultural motive was related positively to a holiday travel purpose and the membership of a heritage organization, this travel motive was furthermore of primary importance for international tourists. Dutch visitors to Amsterdam came, on average, to the destination for alternative purposes. Additionally, the Dutch respondents also reported less interest in shopping and nightlife as their main travel reason. Shopping and nightlife as a motive to visit Amsterdam was, in general, related to younger people, females, and people with a lower education.

These different travel motivations influenced the satisfaction achieved by particular aspects of the city. Satisfaction with the built environment: the architecture, museums, monuments, and urban landscape, was more present for tourists motivated by the cultural aspects of the destination. This result is sensible, since this subgroup of visitors attaches primary importance to these aspects of the city. The estimated positive relationship seems to imply that Amsterdam lives up to the expectations of cultural tourists, at least as far as tangible heritage is concerned. At the same time, shopping tourists seemed to experience low levels of satisfaction with the tangible elements. The intangible aspects are relevant for the satisfaction of tourists motivated by cultural elements, and, to lesser extent, of tourists motivated by business.

The relationships identified between the levels of satisfaction of tourists and the loyalty to Amsterdam as a tourist destination show that tourists who achieve higher levels of satisfaction with intangible aspects of the city tend to be more loyal than those who achieve more satisfaction with the tangible aspects of Amsterdam. An explanation might be that tourists who mainly experience satisfaction with the built environment have a more shallow relationship with the destination,

limiting themselves to visiting city areas, museums, and landmark attractions. This type of tourism could then possibly result in a lower loyalty as compared with tourists who are searching for an intangible experience of the local culture, which is more difficult to achieve in a single visit, and thus leads to a greater potential for return visits once achieved.

Another important remark about the relationship between satisfaction and loyalty is the indirect effect played by the motivational factors. These indirect effects are incorporated in the regression weights between satisfaction and loyalty. Next, estimating the indirect effects led to the detection of a significant positive relationship between the shopping and the business motive, while cultural travellers were found to be less loyal towards the specific destination.

Finally, a number of personal tourist characteristics were found to be directly related to loyalty to Amsterdam. The lower loyalty of heritage conservation organization members confirms our results concerning the cultural motive, which was also negatively related to destination loyalty. A significantly positive effect on loyalty was found for tourists in the lower income categories, who might be more limited in their travel possibilities, tourists with a higher level of education, and non-European tourists.

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Appendix 1: Mean scores and standard errors of latent variable items

			Mean	S.E.
Architecture	<---	M1	1.000	
Museums	<---	M1	.872	.090
Landscape	<---	M1	.696	.084
Cultural events	<---	M1	.409	.070
Atmosphere	<---	M1	.768	.090
Shopping	<---	M3	1.000	
Nightlife	<---	M3	3.446	1.079
Architecture	<---	S1	1.000	
Monuments	<---	S1	.976	.084
Museums	<---	S1	.763	.076
Urban_Landscape	<---	S1	.757	.075
Cultural_events	<---	S2	1.000	
Traditions	<---	S2	2.499	.396
Customs	<---	S2	2.859	.451
Knowledge	<---	S2	2.406	.385
Recommend	<---	L	1.000	
Return	<---	L	.921	.033

Appendix 2: Mean scores and standard errors of other exogenous variables

	Mean	S.E.
Nature business	.107	.014
Age	1.319	.030
Nature holiday	.734	.019
Gender	.514	.022
Income	1.962	.083
Education	2.591	.053
Heritage membership	.224	.018
Dutch Nationality	.197	.017
Other_European	.503	.022
Business motive	.069	.011

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